



SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

Pathomorphology (2)

Educational subject description sheet

Basic information

Field of study Veterinary Medicine	Didactic cycle 2023/24	
Speciality -	Subject code WETFVMS_D.520K.01709.23	
Organizational unit Faculty of Veterinary Medicine	Lecture languages english	
Study level long-cycle	Mandatory Obligatory subjects	
Study form full-time studies	Block Major subjects	
Education profile General academic	Disciplines Veterinary medicine	
Coordinator	Rafał Sapieryński	
Teacher	Rafał Sapieryński, Izabella Dolka, Katarzyna Kliczkowska-Klarowicz, Anna Rodo, Małgorzata Sobczak-Filipiak	
Period Semester 6	Examination Pass with grade	Number of ECTS points 8
	Activities and hours Lecture: 30 Laboratory exercises: 45	

Goals

Code	Goal
C1	to gain knowledge in field of pathomorphology of domestic animals
C2	to learn methods of performing necropsy of various domestic animals
C3	to learn how to do necropsy protocol
C4	to know indications and methods of collection of samples for cytopathological and histopathological examination

Entry requirements

Animal Anatomy 2, Topographical Anatomy, Histology and Embryology 2, Animal Physiology 2, Pathophysiology, Immunology, Microbiology 2, Parasitology and Invasiology 2, Pathomorphology 1, Veterinary Pharmacology 1

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			
W1	theoretical knowledge in the field of general pathology of animals.	B.W1, B.W2, B.W3, B.W6, B.W7, B.W8	Written credit, Assessment of activity during classes
W2	disorders at the level of cell, tissue, organ, system and organism in the course of the disease.	B.W1	Written credit, Assessment of activity during classes
W3	causes and symptoms, describes and interprets anatomopathological changes.	B.W2, B.W3	Written credit, Assessment of activity during classes
W4	clinical data and the results of laboratory and additional tests.	B.W4, B.W6	Written credit, Assessment of activity during classes
Skills - Student can:			
U1	perform autopsies of animals.	B.U16, B.U6, B.U8	Written credit, Assessment of activity during classes
U2	recognize the basic pathological processes in histopathological examination.	B.U7	Written credit, Assessment of activity during classes
U3	collect tissue material for histopathological examination (sections of internal organs, pathological tissues removed during procedures, tissue biotates) properly secure and properly send to the histopathological laboratory.	B.U7	Written credit, Assessment of activity during classes
U4	conduct a medical-veterinary interview in order to obtain accurate information about a single animal or group of animals and his or her in the living environment.	B.U8	Assessment of activity during classes
Social competences - Student is ready to:			

Code	Outcomes in terms of	Effects	Examination methods
K1	use the practically acquired knowledge and acquired skills.	KS.1, KS.10, KS.4, KS.5, KS.8, KS.9	Written credit, Assessment of activity during classes

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	<p>Students learn theoretical information about following subjects:</p> <ul style="list-style-type: none"> · Pathology of gastrointestinal tract. Oral cavity · Pathology of gastrointestinal tract. Stomach. oesophagus · Pathology of gastrointestinal tract. Small intestine, large intestine · Pathology of liver and pancreas. · Pathology of respiratory system. Upper respiratory tract · Pathology of respiratory system. Lung · Pathology of heart. Responses to injury, alteration in muscle size, noninflammatory and inflammatory diseases of myocardium. Disorders of endocardium. Heart neoplasia. · Pathology of serosal membranes and cavities. Serosal effusion - causes, types, cytological examination · Diseases of immune system. Hypersensitivity, autoimmune diseases, immunologic deficiencies · Pathology of immune system. Thymus and spleen. Structure and function, responses to injury. · Congenital disorders, regressive lesions, hyperplastic lesions, inflammation, neoplasia. · Pathology of immune system. Lymph nodes - structure and function, responses to injury. · Congenital disorders, regressive lesions, hyperplastic lesions, inflammation, neoplasia: lymphomas and metastatic neoplasms. · Pathology of bone marrow. Structure and function, responses to injury. Inflammation, leukemoid reaction, primary neoplasia - leukemias. · Pathology of plasma cells, histiocytes and mast cells. Non-malignant and malignant proliferation. · Pathology of urinary system. Kidney - types of kidney's injury, types of kidneys diseases · Pathology of urinary system. Disease of lower urinary tract. <p>During practicals students learn about indications, techniques and methods of necropsy of domestic animals cadaver, they perform autopsy of various animal species: dogs, cats, ruminants, pigs and horses. Students learn how to do necropsy protocol, how to chose and collect samples to histopathological examination, how to send it to laboratory.</p> <p>During histopathology labs students learn about microscopic picture of various pathological lesions.</p>	W1, W2, W3, W4, U1, U2, U3, U4, K1	Lecture, Laboratory exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture
Laboratory exercises	Laboratory (experiment), learning by experiment

Activities	Examination method	Percentage
Lecture	Written credit	50%
Lecture	Assessment of activity during classes	20%
Laboratory exercises	Written credit	15%
Laboratory exercises	Assessment of activity during classes	15%

Activities	Credit conditions
Lecture	<p>1. Histopathology Colloquium comprises of two parts:</p> <p>a) Practical part: identification of slides (recognition at least 2 out of three slides) that is, providing a precise histopathological diagnosis (English name) - passing the practical part is a condition for joining the theoretical part of the colloquium, which takes place at the same time.</p> <p>b) Theoretical part: answering the questions (written form: three questions, two concerning material from lectures and the book, one concerning description of particular histopathological change/ slide).</p> <p>* The grade of the colloquium is the grade of the theoretical part. * If the theoretical part is not passed, both parts must be retaken.</p> <p>2. Necropsy procedures and diagnostic necropsy - student knows necropsy procedures, safety rules in necropsy room and methods of samples collection (to pass this test student has to know at least 70% of obligatory material). Answering the questions (written form: three questions concerning material from the book and pre- lesson).</p> <p>Depending on external conditions that make it impossible to carry out the verification in a planned form, it is allowed to change the forms of verification of learning outcomes.</p>
Laboratory exercises	<p>Histopathology Colloquium comprises of two parts:</p> <p>a) Practical part: identification of slides (recognition at least 2 out of three slides) that is, providing a precise histopathological diagnosis (English name) - passing the practical part is a condition for joining the theoretical part of the colloquium, which takes place at the same time.</p> <p>b) Theoretical part: answering the questions (written form: three questions, two concerning material from lectures and the book, one concerning description of particular histopathological change/ slide).</p> <p>* The grade of the colloquium is the grade of the theoretical part. * If the theoretical part is not passed, both parts must be retaken.</p> <p>Necropsy procedures and diagnostic necropsy - student knows necropsy procedures, safety rules in necropsy room and methods of samples collection (to pass this test student has to know at least 70% of obligatory material). Answering the questions (written form: three questions concerning material from the book and pre- lesson).</p> <p>Depending on external conditions that make it impossible to carry out the verification in a planned form, it is allowed to change the forms of verification of learning outcomes.</p>

Literature

Obligatory

1. Necropsy Technique for Veterinary Students. Kliczkowska-Klarowicz K., SGGW, Warszawa, 2016
2. Pathologic basis of veterinary disease. M. D. McGavin and J. F. Zachary. Mosby-Elsevier Ed.
3. Introduction to veterinary pathology. N. F. Cheville, Blackwell Publishing

Calculation of ECTS points

Activity form	Activity hours*
Lecture	30
Laboratory exercises	45
Preparation for the test	160
Student workload	Hours 235
Number of ECTS points	ECTS 8

* hour means 45 minutes

Effects

Code	Content
KS.1	label.effect.prefix.competenceAbsolwent jest gotów do wykazywania odpowiedzialności za podejmowane decyzje wobec ludzi, zwierząt i środowiska przyrodniczego
KS.4	label.effect.prefix.competenceAbsolwent jest gotów do korzystania z obiektywnych źródeł informacji
KS.5	label.effect.prefix.competenceAbsolwent jest gotów do formułowania wniosków z własnych pomiarów lub obserwacji
KS.8	label.effect.prefix.competenceAbsolwent jest gotów do pogłębiania wiedzy i doskonalenia umiejętności
KS.9	label.effect.prefix.competenceAbsolwent jest gotów do komunikowania się ze współpracownikami i dzielenia się wiedzą
KS.10	label.effect.prefix.competenceAbsolwent jest gotów do działania w warunkach niepewności i stresu
B.U6	label.effect.prefix.skillAbsolwent potrafi pobierać i zabezpieczać próbki do badań oraz wykonywać standardowe testy laboratoryjne, a także prawidłowo analizować i interpretować wyniki badań laboratoryjnych
B.U7	label.effect.prefix.skillAbsolwent potrafi stosować aparaturę diagnostyczną, w tym radiologiczną, ultrasonograficzną i endoskopową, zgodnie z jej przeznaczeniem i zasadami bezpieczeństwa dla zwierząt i ludzi oraz interpretować wyniki badań uzyskane po jej zastosowaniu
B.U8	label.effect.prefix.skillAbsolwent potrafi wdrażać właściwe procedury w przypadku stwierdzenia choroby podlegającej obowiązkowi zwalczania lub rejestracji
B.U16	label.effect.prefix.skillAbsolwent potrafi wykonać sekcję zwłok zwierzęcia wraz z opisem, pobrać próbki i zabezpieczyć je do transportu
B.W1	label.effect.prefix.knowledgeAbsolwent zna i rozumie zaburzenia na poziomie komórki, tkanki, narządu, układu i organizmu w przebiegu choroby
B.W2	label.effect.prefix.knowledgeAbsolwent zna i rozumie mechanizmy patologii narządowych i ustrojowych
B.W3	label.effect.prefix.knowledgeAbsolwent zna i rozumie przyczyny i objawy zmian anatomopatologicznych, zasady leczenia i zapobiegania w poszczególnych jednostkach chorobowych
B.W4	label.effect.prefix.knowledgeAbsolwent zna i rozumie zasady postępowania diagnostycznego, z uwzględnieniem diagnostyki różnicowej, oraz postępowania terapeutycznego
B.W6	label.effect.prefix.knowledgeAbsolwent zna i rozumie sposób postępowania z danymi klinicznymi i wynikami badań laboratoryjnych i dodatkowych
B.W7	label.effect.prefix.knowledgeAbsolwent zna i rozumie przepisy prawa, zasady wydawania orzeczeń i sporządzania opinii na potrzeby sądów, organów administracji państwowej i samorządowej oraz samorządu zawodowego
B.W8	label.effect.prefix.knowledgeAbsolwent zna i rozumie sposób postępowania w przypadku podejrzenia lub stwierdzenia chorób podlegających obowiązkowi zwalczania lub rejestracji